

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-023869**Date Inspected:** 19-May-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Sun Tian Liang

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

**OBG Trial Assembly**

This QA Inspector observed ZPMC welder Mr. Liu Ya, stencil 067520 used shielded metal arc welding procedure specification WPS-B-P-2214-TC-U4B-FCM-1 to make segment 13AW weld DP3120-001-244 and segment 13BW weld DP3133-001-018. This QA Inspector observed a welding current of approximately 170 amps, the base materials appear to have been preheated with an electrical heater and Mr. Liu Ya appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Jian stencil 067829 used shielded metal arc welding procedure specification WPS-B-P-2214-TC-U4B-FCM-1 to make segment 13AW weld DP3122-001-244 and segment 13BW weld DP3135-001-018. This QA Inspector observed a welding current of approximately 170 amps, the base materials appear to have been preheated with an electrical heater and Mr. Li Jian appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Liao Yanfei, stencil 066398 used flux cored welding procedure WPS-B-T-2112-ESAB to make OBG segment 13BW stiffener plate hold back weld SEG3013C-001-002. This QA Inspector observed a welding current of approximately 290 amps, 26.0 volts, the base material had been preheated with electrical heaters and Mr. Liao Yanfei appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jiang Junlin, stencil 067876 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG Segment 13BW weld KP3016-002-004. This QA Inspector observed a welding current of approximately 320 amps, 26.0 volts, the base material had been preheated with electric heaters and Mr. Jiang Junlin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Huang Hongpei, stencil 037705 used flux cored welding procedure WPS-B-T-2232-ESAB and WPS-B-T-2233-ESAB to make OBG segment 13BW longitudinal diaphragm welds SEG3020W-079 (2G), 081 (3G) and 089 (2G). This QA Inspector observed a welding current of approximately 240 amps, 26.0 volts, the base material had been preheated with a torch and Mr. Huang Hongpei appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ye Sheng Jun, stencil 203871 used used flux cored welding procedure WPS-B-T-2233-ESAB to make segment 13AW weld SEG3013R-148. This QA Inspector observed a welding current of approximately 230 amps, 25 volts, the base materials appear to have been preheated with an electrical heater and Mr. Ye Sheng Jun appeared to be certified to make this weld. This QA Inspector observed this fillet weld “T” joint has a 6.5 mm root gap. This QA Inspector showed CWI Mr. Liu Yang this weld joint and he said he will issue a request to change this weld joint from a fillet on each side to a complete joint penetration weld. Mr. Liu Yang also marked on the adjacent steel that this fillet weld joint should not be completed at this time.

This weld is adjacent to the longitudinal diaphragm near PP118.5 on the counterweight side. Items observed on this date do not appear to fully comply with applicable contract documents. See the photographs below for additional information.

This QA Inspector observed ZPMC welder Mr. Xu Zichuan, stencil 205098 used shielded metal arc welding procedure WPS-345-SMAW-4F(4G)-FCM-Repair-1 to make base metal weld repairs of OBG segment 13AW crossbeam side plate. ZPMC QC informed this QA Inspector that weld repair document B-CWR-2861 documents repairs of this weld. This QA Inspector measured a welding current of approximately 150 amps and the base materials appear to have been preheated with a torch and Mr. Xu Zichuan appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Pan Ming, stencil 066673 used shielded metal arc welding procedure specification WPS-B-P-2112-TC-U4B-FCM-1 to make OBG Segment 13AW weld SEG3013P-135. This QA Inspector observed a welding current of approximately of approximately 220 amps, the base material had been preheated with electric heaters and Mr. Pan Ming appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wu Cunnang, stencil 070101 used flux cored welding procedure

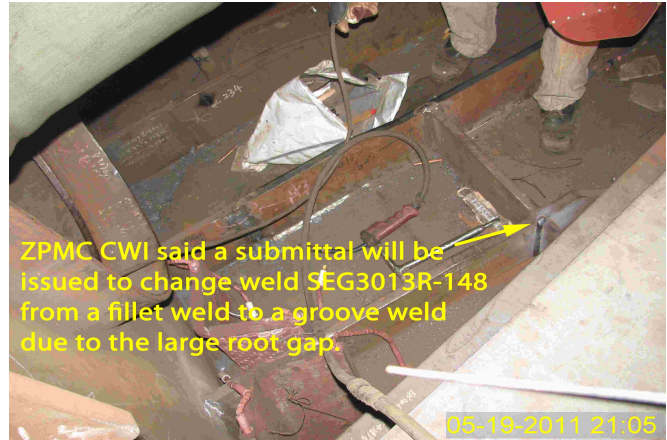
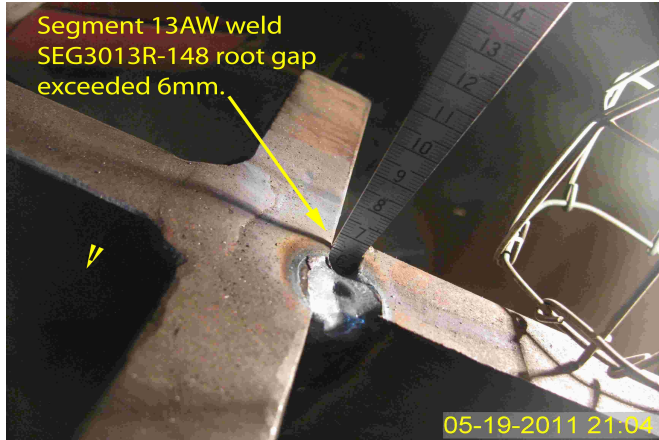
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WPS-B-T-2212-ESAB to make OBG Segment 13CW welds BP3067-056~060. This QA Inspector observed a welding current of approximately of approximately 280 amps, 26.0 volts, the base material had been preheated with electric heaters and Mr. Wu Cunnang appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.



### Summary of Conversations:

See Above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Riley,Ken	QA Reviewer

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